

## Bonds Payable

Large companies need large amounts of money to finance operations. They may borrow long-term from banks or issue bonds payable to the public to raise the money. Bonds payable are groups of long-term notes payable issued to multiple lenders, called bondholders. By issuing bonds payable, a company can borrow millions of dollars from thousands of investors, rather than depending on a loan from one single bank or lender. Each investor can buy a specified amount of bonds.

تحتاج الشركات الكبيرة مبالغ كبيرة لتمويل عملياتها التشغيلية. هذه الشركات قد تقترض أموالاً طويلة الأجل من البنوك أو قد تُصدر سندات مستحقة الأجل للجمهور لجمع المال. السندات المستحقة هي مجموعة من السندات طويلة الأجل يتم إصدارها لمقرضين متعددين، يُدعون حامل السندات. بإصدار السندات المستحقة، يمكن للشركة أن تقترض ملايين الدولارات من آلاف المستثمرين، أكثر من اعتمادها على قرض من بنك واحد أو مقرض واحد. كل مُستثمر يمكن أن يشتري كمية مُحددة من السندات.

Each bondholder gets a bond certificate, which shows the name of the company that borrowed the money, exactly like a note payable. The certificate states the principal, which is the amount the company has borrowed. The bond's principal amount is also called maturity value, or par value. The company must then pay each bondholder the principal amount at a specific future date, called the maturity date.

كل حامل سند يحصل على شهادة سند، والتي تُظهر اسم الشركة التي اقترضت المال، تماماً مثل أوراق الدفع. تذكر الشهادة أصل المبلغ، والذي هو المبلغ الذي اقترضته الشركة. مبلغ أساس الدين يُدعى أيضاً قيمة الاستحقاق، أو القيمة الاسمية. يجب على الشركة أن تدفع لكل حامل سند المبلغ الأساس بتاريخ مستقبلي محدد يُدعى تاريخ الاستحقاق.

There are many similarities between the accounting for short-term notes payable and long-term notes payable. People buy bonds to earn interest. The bond certificate states the interest rate that the company will pay and the dates the interest is due, generally semi-annually (twice a year).

هناك الكثير من التشابهات بين المحاسبة عن أوراق الدفع قصيرة الأجل وأوراق الدفع طويلة الأجل. فالأشخاص يشترون السندات ليكسبوا الفوائد. شهادة السند تبين نسبة الفائدة والتي على الشركة دفعها وتواريخ استحقاق الفوائد، عادة نصف سنوية (مرتين بالسنة).

## Bond terms

Bond terminology is important to understand.

من المهم جداً فهم مصطلحات السندات

**Principal amount (also called maturity value, or par value):** The amount the borrower must pay back to the bondholders on the maturity date.

المبلغ الأساس (يُدعى قيمة الاستحقاق، أو القيمة الاسمية): المبلغ الذي على المقرض إعادة لحملة السندات بتاريخ الاستحقاق.

**Maturity date:** The date on which the borrower must pay the principal amount to the bondholders.

تاريخ الاستحقاق: التاريخ الذي على المقرض دفع المبلغ الأساس لحملة السندات.

**Stated interest rate:** The annual rate of interest that the borrower pays the bondholders.

معدل الفائدة المنصوص عليه: المعدل السنوي للفائدة الذي يدفعها المقرض لحملة الأسهم

**There are various types of bonds, including the following:**

هناك أنواع متعددة من السندات، تتضمن التالي:

• **Term bonds** all mature at the same specified time. For example, \$100,000 of term bonds may all mature 5 years from today.

سندات لأجل تستحق جميعها بزمان محدد واحد. مثلاً، 100000 سندات لأجل تستحق جميعها بعد 5 سنوات من اليوم.

• **Serial bonds** mature in installments at regular intervals. For example, a \$500,000, 5-year serial bond may mature in \$100,000 annual installments over a 5-year period.

سندات متسلسلة تستحق بأقساط ضمن فترات منتظمة. مثلاً 500000 سندات متسلسلة قد تستحق بأقساط سنوية مبلغها 100000 خلال فترة 5 سنوات.

• **Secured bonds** give the bondholder the right to take specified assets of the issuer if the issuer fails to pay principal or interest. A mortgage on a house is an example of a secured bond.

السندات بضمان: تعطي حامل السند الحق بأخذ أصول معينة من محرر السند إذا أخفق بدفع أصل المبلغ أو الفوائد. رهن المنزل هو مثال على سند بضمان.

• **Debentures** are unsecured bonds that aren't backed by assets. They are backed only by the goodwill of the bond issuer.

سندات Debentures هي سندات غير مضمونة بأصول ملموسة. هي مدعومة بالسمعة التجارية لمُحرر السند.

### Bond Pricing

#### Maturity (Par) Value

- \$1000 bond issued for \$1000
- No discount or premium

#### Discount

- \$1000 bond issued for \$980
- Issued below maturity value

#### Premium

- \$1000 bond issued for \$1015
- Issued above maturity value

**A bond can be issued at any price agreed upon by the issuer and the bondholders. There are three basic categories of bond prices. A bond can be issued at:**

السند يمكن أن يتم إصداره بأي سعر متفق عليه من قبل مُصدر السند وحملة السندات. هناك ثلاث فئات لأسعار السندات. السند يمكن أن يتم إصداره بـ:

• **Maturity (par) value.** Example: A \$1,000 bond issued for \$1,000. A bond issued at par has no discount or premium.

قيمة الاستحقاق (القيمة الاسمية): مثال: سند بقيمة \$1000 يتم إصداره بـ \$1000. السند المصدر بقيمة اسمية يكون بلا حسم ولا علاوة.

• **Discount (or Bond Discount),** a price below maturity (par) value. Example: A \$1,000 bond issued for \$980. The discount is \$20 (\$1,000 – \$980).

**حسم أو حسم سند:** السعر أقل من قيمة الاستحقاق أو القيمة الاسمية. مثال: سند بقيمة \$1000 يتم إصداره بـ \$980. الحسم هو \$20 (\$980-\$1000)

• **Premium (or Bond Premium)**, a price above maturity (par) value. Example: A \$1,000 bond issued for \$1,015. The premium is \$15 (\$1,015 – \$1,000).

**علاوة أو علاوة السند:** السعر أعلى من قيمة الاستحقاق. مثال: سند بـ \$1000 يتم إصداره بـ \$1015. العلاوة \$15 (\$1000-\$1051)

The issue price of a bond does not affect the required payment at maturity. In all of the preceding cases, the company must pay the maturity value of the bonds when they mature.

سعر الإصدار للسند لا يؤثر على المبلغ المطلوب بتاريخ الاستحقاق. في كل الحالات السابقة، على الشركة أن تدفع قيمة الاستحقاق للسندات عندما تستحق.

Bond prices are quoted as a percentage of maturity value. For example,

- A \$1,000 bond quoted at 100 is bought or sold for 100% of maturity value, (\$1,000. x 1.00)
- A \$1,000 bond quoted at 101.5 has a price of \$1,015 (\$1,000 × 1.015).
- A \$1,000 bond quoted at 89.75 has a price of \$897.50 (\$1,000 × .8975).

The issue price of a bond determines the amount of cash the company receives when it issues the bond. In all cases, the company must pay the bond's maturity value to retire it at maturity.

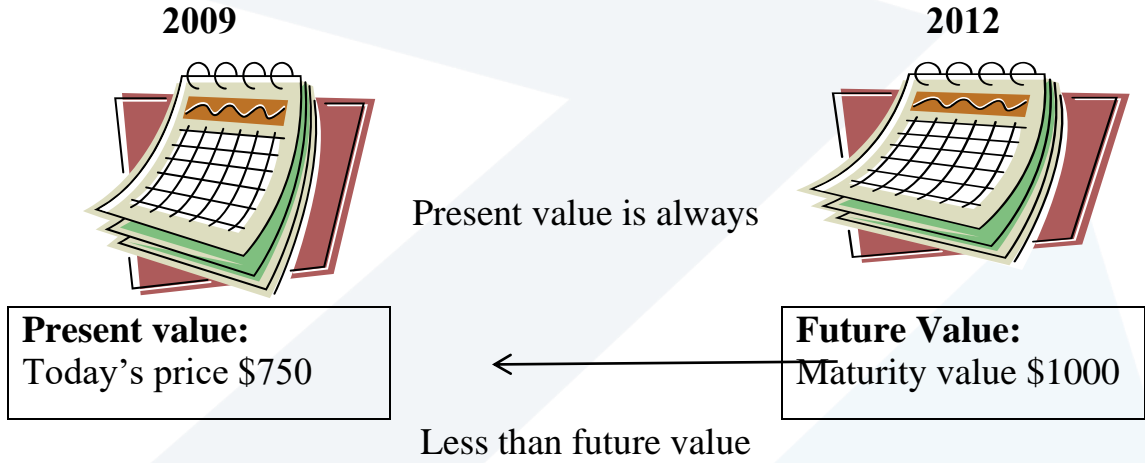
أسعار السندات تُقدّر (تُسعر) كنسبة من قيمة الاستحقاق. كمثال،

- سند \$1000 يُسعر بـ 100 يُشترى أو يُباع بنسبة 100% من قيمة الاستحقاق
  - سند \$1000 يُسعر بـ 101.5 يكون له سعر 1015 (\$1000 × 1.015)
  - سند \$1000 يُسعر بـ 89.75 يكون له سعر 897.50 (\$1000 × 0.8975)
- سعر الإصدار للسند يُحدّد كمية النقد التي تتلقاها الشركة عندما تُصدر السند. بكل الحالات، الشركة عليها أن تدفع قيمة السند الاسمية بتاريخ الاستحقاق.

## Present Value

Money earns income over time, a fact called the time value of money. Let's see how the time value of money affects bond prices. Assume that a \$1,000 bond reaches maturity three years from now and carries no interest. Would you pay \$1,000 to purchase this bond? No, because paying \$1,000 today to receive \$1,000 later yields no income on your investment. How much would you pay today in order to receive \$1,000 in three years? The answer is some amount less than \$1,000. Suppose \$750 is a fair price. By investing \$750 now to receive \$1,000 later, you will earn \$250 over the three years. The diagram that follows illustrates the relationship between a bond's price (present value) and its maturity amount (future value).

المال يكسب دخل بمرور الوقت، الحقيقة تقول القيمة الزمنية للنقود. لنرى كيف القيمة الزمنية للنقود تؤثر على أسعار السند. افترض بأنّ سند بقيمة \$1000 يصل إلى الاستحقاق بعد ثلاث سنوات من الآن ولا يحمل أيّ فوائد. هل ستدفع \$1000 لشراء ذلك السند؟ لا، لأن دفع \$1000 اليوم لاستلام \$1000 لاحقاً لا ينتج عنه أيّ دخل لاستثمارك. كم ستدفع اليوم لتستلم \$1000 خلال ثلاث سنوات؟ الجواب هو مبلغ أقل من \$1000. افترض أنّ \$750 هو سعر عادل. من خلال استثمار \$750 اليوم لاستلام \$1000 لاحقاً، ستكسب \$250 خلال ثلاث سنوات. الشكل التالي يشرح العلاقة بين سعر السند (القيمة الحالية) ومبلغ الاستحقاق (القيمة المستقبلية).



Bonds are sold at their market price, which is the present value of the interest payments the bondholder will receive while holding the bond plus the bond principal paid at the end of the bond's life.

تُباع السندات بسعرها السوقي، والذي هو القيمة الحالية لدفعات الفائدة التي سيتلقاها حامل السند طالما هو محتفظ بالسند بالإضافة لأساس السند الذي سيتم دفعه بنهاية حياة السند.

### Two interest rates work together to set the price of a bond:

هناك معدلين للفائدة يعملان معاً لتحديد سعر السند:

- **The stated interest rate** determines the amount of cash interest the borrower pays each year. The stated interest rate is printed on the bond and does not change from year to year.

معدل الفائدة المنصوص عنه يحدد كمية الفائدة النقدية التي سيدفعها المقترض كل عام. معدل الفائدة المنصوص عنه تتم طباعته ولا يتغير من عام لآخر.

- **The market interest rate (also known as the effective interest rate)** is the rate that investors demand to earn for loaning their money. The market interest rate varies daily. A company may issue bonds with a stated interest rate that differs from the market interest rate, due to the time gap between the decision of what the stated rate should be and the actual issuance of the bonds.

معدل الفائدة السوقي (وأيضاً يُسمى معدل الفائدة الفعّال) هو معدل يطلبه المستثمرون كريح لإقراض أموالهم. وهذا المعدل السوقي للفائدة يتغير يومياً. قد تصدر الشركة سندات بسعر فائدة منصوص عليه يختلف عن معدل الفائدة السوقي بناء على الفجوة الزمنية بين قرار ما الذي يجب أن تكون عليه نسبة الفائدة المنصوص عليها والإصدار الفعلي للسندات.

If the stated rate is equal to the market rate, the bonds will be issued at their maturity value. If the stated rate is less than the market rate, the bonds will sell below maturity value – a discount. Conversely, if the stated rate is greater than the market rate, bonds will be issued above maturity value – a premium. This is because the bonds are paying better interest than the market indicates; the market pays more because the bond is paying more interest.

إذا كان المعدل المنصوص عليه مساو للسعر السوقي، فإن السندات يجب أن تُصدر بقيمتها الاسمية.

إذا كان المعدل المنصوص عليه أقل من المعدل السوقي، فإن السندات يجب أن تُباع بأقل من قيمة الاستحقاق - بخصم إصدار بالمقابل، إذا كان المعدل المنصوص عليه أكبر من المعدل السوقي، فإن السندات يجب أن تُصدر بأعلى من قيمة الاستحقاق - بعلاوة إصدار. وهذا بسبب أن السندات تدفع فوائد أعلى مما أعلن السوق؛ السوق يدفع أكثر بسبب أن السند يدفع فوائد أكثر.

### Bond Interest Rates

Stated Interest rate	Market interest rate
<ul style="list-style-type: none"> <li>• Determines amount of cash interest borrower pays each year</li> <li>• Remains constant</li> </ul>	<ul style="list-style-type: none"> <li>• Rate investors demand for loaning money</li> <li>• Varies daily</li> </ul>

Stated interest rate	Market interest rate	Issue price of bonds payable
9%	=	9%
9%	<	10%
9%	>	8%

Bond prices depend on market rate of interest, stated rate of interest, and time:

#### Requirement:

1. Determine whether the following bonds payable will be issued at maturity value, at a premium, or at a discount.
  - a. The **market interest rate** is 7%. Denver issues bonds payable with a **stated rate** of a 6.5%
  - b. Houston **issued** 7% bonds payable when the **market rate** was 6.75%
  - c. Cincinnati **issued** 8% bonds when the **market interest rate** was 8%
  - d. Miami Company issued bonds payable that pay **stated interest** of 7%. At issuance, the **market interest rate** was 8.25 %

The market interest rate is 7%. Denver issues bonds payable with a stated rate of a 1/2%	Discount
Houston issued 7% bonds payable when the market rate was 6 3/4%	Premium
Cincinnati issued 8% bonds when the market interest rate was 8%	Par value
Miami Company issued bonds payable that pay stated interest of 7%. At issuance, the market interest rate was 8 1/4%	Discount

### Measure interest expense on bonds using the straight-line amortization method.

#### Accounting for Bonds Issued at Maturity Value

The journal entry to record issuing a bond payable at maturity value includes a debit to Cash and a credit to Bonds payable. In this example, maturity value is \$100,000 and the interest rate is 8%. These bonds pay interest semi-annually as do most bonds. Every six months, the company pays interest of \$4,000 to the bondholders. This is computed by the interest formula --  $\$100,000 \times 8\% \times \frac{1}{2}$ . Interest expense is debited and Cash is credited.

Date	Description	Debit	Credit
Issue date	Cash	100000	
	Bonds payable		100000
	To record issuance of 8% bonds at maturity value		
Int.pmt dates	Interest expense	4000	
	Cash ( $\$100000 \times 8\% \times \frac{1}{2}$ )		4000
	To record semi-annual interest payment		

When the bonds mature, Bonds payable is debited, which will zero out the account. Cash is credited to record payment to the bondholders.

Date	Description	Debit	Credit
Maturity date	Bonds payable	100000	
	Cash		100000
	To record payment of bonds at maturity		

#### Accounting for Bonds Issued at a Discount

Market conditions may force a company to accept a discount price for its bonds. Suppose a company issues \$100,000 of its 8%, 10-year bonds at 98. The company receives \$98,000 ( $\$100,000 \times 0.98$ ) at issuance and makes this journal entry, which debits Cash for the amount received and credits Bonds payable for the maturity value of the bond. The difference of \$2,000 is the discount, and has its own account. Discount on bonds payable is a contra account to Bonds payable.

Date	Description	Debit	Credit
Issue date	Cash	98000	
	Discount on bonds payable (Contra account to Bonds payable)	2000	
	Bonds payable		100000
	To record issuance of 100000, 10 year, 8% bonds at 98		

### Carrying Value of Bonds Payable

Bonds payable minus the discount gives the carrying amount of the bonds. The company would report these bonds payable as shown here immediately after issuance.

<b>Long-term liabilities</b>		
Bonds payable	\$100000	
Less: Discount on bonds payable	(\$2000)	
Carrying value		\$98000

The company borrowed \$98,000, but still must pay \$100,000 when the bonds mature 10 years later. What happens to the \$2,000 discount? The discount is additional interest expense. The discount becomes interest expense through a process called amortization, the gradual reduction of an item over time. We can amortize a bond discount by dividing it into equal amounts for each interest period. This method is called straight-line amortization and it works very much like the straight-line depreciation method. This journal entry shows this process. The Discount is credited (reduced) by \$100. This is computed by dividing the \$2,000 discount by 10 years, the life of the bond, multiplied by 6/12 of a year. The credit to Cash is the same as before - \$100,000 x 8% x 6/12. Interest expense is debited for the interest payment plus the discount amortization.

Date	Description	Debit	Credit
Int.pmt dates	Interest expense	4100	
	Discount on bonds payable (2000\10×6\12)		100
	Cash (\$100000× 8%×6\12)		4000

### Accounting for Bonds Issued at a Premium

To illustrate a bond premium, let's change the example. Assume the bonds are priced at 104 (104% of maturity value). In that case, the company receives \$104,000 cash upon issuance. Bonds payable and the Premium account each carry a credit balance. The Premium is a companion account to Bonds payable.

Date	Description	Debit	Credit
Issue date	Cash	104000	
	Premium on bonds payable (Companion account to Bonds payable)		4000
	Bonds payable		100000
	To record issuance of 100000, 10 year, 8% bonds at 104		

### Carrying Value of Bonds Payable

The Premium on bonds payable is added to the Bonds payable to determine the bond carrying amount. The company would report these bonds payable as shown here immediately after issuance.

<b>Long-term liabilities</b>		
Bonds payable	\$100000	
Plus: Premium on bonds payable	\$4000	
Carrying value		\$104000

The company borrowed \$104,000, but only has to pay \$100,000 when the bonds mature 10 years later. What happens to the \$4,000 Premium account? The Premium reduces Interest expense through amortization.

This journal entry shows this process. The Premium is debited (reduced) by \$200. This is computed by dividing the \$4,000 premium by the number of years of the bond's life, 10, multiplied by 6/12 of a year. The credit to Cash is the same as before -  $\$100,000 \times 8\% \times 6/12$ . Interest expense is debited for the interest payment minus the premium amortization.

Date	Description	Debit	Credit
Int.pmt dates	Interest expense	3800	
	Premium on bonds payable (4000\10×6\12)	200	
	Cash ( $\$100000 \times 8\% \times 6/12$ )		4000

After the first interest payment entry is posted, the Premium account will be reduced by \$200. The resulting carrying value is \$103,800 = the \$100,000 maturity value plus the \$3,800 premium.

### Carrying Value

Bonds payable		Premium
100000	↘	200
	↙	\$4000
	↘	3800
<div style="border: 1px solid black; display: inline-block; padding: 5px;">           Carrying value after first interest payment = \$103800         </div>		

### Adjusting Entries for Bonds Payable

Companies may issue bonds payable when they need cash. The interest payments seldom occur on December 31, so interest expense must be accrued at year end. The accrual entry should also amortize any bond discount or premium.

Suppose a company issued \$100,000 of 8%, 10-year bonds at a \$2,000 discount on October 1, 2010. The interest payments occur on March 31 and September 30 each year. On December 31, the company accrues interest and amortizes bond discount for three months. Interest payable is credited for three months (October, November, and December). Discount on bonds payable must also be amortized for these three months.



The next semiannual interest payment occurs on March 31, 2011, and the company makes the journal entry on the next slide.

Date	Description	Debit	Credit
31\12	Interest expense	2050	
	Discount on bonds payable $(2000\backslash 20) \times 3\backslash 6$		50
	Interest payable $(\$100000 \times 8\% \times 3\backslash 12)$		2000

The next semi-annual interest payment occurs on March 31, 2011, and the company makes this journal entry. Interest payable is debited to zero out the adjusting entry. Cash is credited for the full semi-annual interest payment. The discount is amortized for three months. Interest expense is a “plug” number – the number that makes the entry balance.

Date	Description	Debit	Credit
31\3	Interest payable	2000	
	Interest expense	2050	
	Discount on bonds payable $(2000\backslash 10 \times 3\backslash 12)$		50
	Cash $(\$100000 \times 8\% \times 6\backslash 12)$		4000

Suppose a company issue bonds on March 31, 2010

Date	Description	Debit	Credit
30\9\2010	Interest expense	4100	
	Discount on bonds payable $(2000\backslash 20)$		100
	Cash $(\$100000 \times 8\% \times 6\backslash 12)$		4000

Date	Description	Debit	Credit
31\12\2010	Interest expense	2050	
	Discount on bonds payable $(2000\backslash 20) \times 3\backslash 6$		50
	Interest payable $(\$100000 \times 8\% \times 3\backslash 12)$		2000

Date	Description	Debit	Credit
31\3\2011	Interest payable	2000	
	Interest expense	2050	
	Discount on bonds payable $(2000\backslash 10 \times 3\backslash 12)$		50
	Cash $(\$100000 \times 8\% \times 6\backslash 12)$		4000